

### **REMARKS**

Applicants appreciate the Examiner's thorough examination of the subject application and request reconsideration of the subject application based on the foregoing amendments and the following remarks.

Claims 4, 5, 7, 8, 13-16, 19 and 21-30 are pending in the subject application. The Examiner has acknowledged claims 13-16 as being allowable.

Claims 4, 5, 7, 19 and 21-30 stand rejected under 35 U.S.C. §102. Claim 8 was objected to as depending from a rejected base claim, however, the Examiner indicated that the claim would be allowable if appropriately re-written in independent form.

Claim 8 was canceled in the instant amendment without prejudice or disclaimer and claim 7 was amended so as to include the limitations of cancelled claim 8.

Claims 21 and 25 were amended so as to more clearly indicate what the predetermined slope is based on.

Claims 31-33 were added to more particularly claims aspects/ embodiments of the present invention.

The amendments to the claims are supported by the originally filed disclosure.

### **35 U.S.C. §102 REJECTIONS**

The Examiner rejected claims 4-5, 7, 19 and 21-30 under 35 U.S.C. §102(e) as being anticipated by Suzuki et al. [USP 5,587,772; "Suzuki"]. Applicants respectfully traverse as discussed below. Because claims were amended in the instant amendment, the following

discussion refers to the language of the amended claims, however, only those amended features specifically relied upon to distinguish the claimed invention from the cited prior art shall be considered as being made to overcome the cited reference.

#### **CLAIM 7**

As indicated above, claim 7 was amended so as to include the limitations of claim 8. As also indicated in the Office Action, claim 8 would have been allowable if amended to include the limitations of the base claim, claim 7, there being no intervening claims. As such, Applicants believe that claim 7 is in allowable form.

It is respectfully submitted that claim 7 is patentable over the cited reference for the foregoing reasons.

#### **CLAIMS 4, 19**

As to claim 4, there is claimed a display device that includes *inter alia*, thin film transistors and a driving circuit that controls fall of the scanning signal. Also, the driving circuit of such a display device controls the slopes of the falls based on gate voltage drain current characteristics of the thin film transistors.

In contrast to the present invention, Suzuki discloses and teaches two techniques (*i.e.*, see Figs 1A,B of Suzuki) for suppressing a voltage shift of the written video signal. In one technique (see also Fig. 1A of Suzuki), it is described that this is accomplished by shaping a fall of the gate pulses GP smoothly in a transition from the selected period of time to the non-selected period of

time (see col. 3, lines 25-29). In Suzuki this is described in comparison to the conventional technique where, the falls of the gate pulses is shaped so as to be rapid. In the other technique (see also Fig. 1B of Suzuki) the falls of the gate pulses is shaped by dropping the voltage level  $V_{gate1}$  of the gate pulses GP to be the value  $V_{gate2}$  directly before a transition from the selected period to the non-selected period of time.

Nowhere in Suzuki is it disclosed, taught or suggested that the slopes of the falls of the scanning signal are based on a gate voltage-drain current characteristic of the thin film transistors. There also is no disclosure, discussion or suggestion anywhere in Suzuki as to the beneficial effects that flow from having the slopes controlled in this fashion.

As to claim 19, there is claimed a display method for carrying out display in which during actuation of the pixel electrodes, the slopes of the falls of the scanning signal line are controlled on the basis of the gate-voltage-drain current characteristics of the thin film transistors that are provided at the intersections of the image signal lines and the scanning signal lines. It thus, is respectfully submitted that the foregoing remarks distinguishing claim 4 from Suzuki also apply to distinguish the method of claim 19 from Suzuki.

It is respectfully submitted that claims 4 and 19 are patentable over the cited reference for the foregoing reasons.

#### **CLAIMS 29, 30**

Claim 29, which depends from claim 14, adds the further limitation that the driving circuit controls the slopes of the falls of the scanning signal, based on gate voltage-drain current

characteristics of the thin film transistors, and based on a signal transmission delay characteristic.

Claim 30, which depends from claim 19, adds the further limitation that during the actuation, the driving circuit controls the slopes of the falls of the scanning signal, based on gate voltage-drain current characteristics of the thin film transistors, and based on a signal transmission delay characteristic.

As indicated above, each of the base claims, claims 14 and 19 are considered to be patentable over Suzuki and thus are considered to be allowable. Thus, each of claims 29 and 30 are considered to be in allowable form at least because of their dependency from an allowable base claim. Applicants, however, also make the following further observations regarding Suzuki as to claims 29 and 30.

As indicated above, Suzuki discloses suppressing the voltage shift by shaping a fall of the gate pulse smoothly or step-wisely. Suzuki does not anywhere disclose, describe or teach controlling the slopes of the falls based on a signal transmission delay characteristic. This is not surprising, as the beneficial effect that flows from such a feature is not described or taught anywhere in Suzuki. As indicated in numerous places in the subject application, controlling the slopes based on the signal transmission delay characteristic enables the slopes of the scanning signal falls to be substantially equal wherever on the scanning line, thereby making the level shifts of the pixel electrodes substantially equal (*e.g.*, see paragraph bridging pages 18 and 19 of the subject application). This is not described or suggested anywhere in Suzuki.

It is respectfully submitted that claims 29 and 30 are patentable over the cited reference for the foregoing reasons.

## **CLAIMS 21-28**

As indicated herein claims 21 and 25 were amended so as to more distinctly claim the present invention. More particularly claim 21 was amended so as to provide that the driving circuit is adapted so as to control a waveform of the scanning signal so that the scanning signal falls at a predetermined slope and that the predetermined slope is established based on one of setting a change rate of the fall of the waveform in a vicinity of an input-side end of the scanning signal line so as to be substantially equal to a change rate of the fall of the waveform in a vicinity of the other end of the scanning signal line, a basis of signal delay transmission characteristics, a basis of a gate-voltage drain current characteristic of pixel switching elements. Claim 25 was similarly amended.

As indicated above in regards to the discussion of claims 4 and 19, it is concluded that Suzuki does not disclose or teach a display device that includes a driving circuit that controls fall of the scanning signal, more specifically a driving circuit where the slopes of the falls are controlled based on gate voltage drain current characteristics of the thin film transistors. As also indicated in the discussion above regarding claims 29 and 30, Suzuki also does not disclose or teach controlling the slopes of the falls based on a signal transmission delay characteristic. Accordingly at least the reasons articulated above for claims 4, 19 and claims 29, 30 apply equally to distinguish each of claims 21-28 from Suzuki.

It is respectfully submitted that claims 21-28 are patentable over the cited reference for the foregoing reasons.

The following additional remarks shall apply to each of the above.

As provided in MPEP-2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), or stated another way, "The identical invention must be shown in as complete detail as is contained in the ... claims. *Richardson v Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ 2d. 1913, 1920 (Fed. Cir. 1989). Although identify of terminology is not required, the elements must be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990). It is clear from the foregoing remarks that the above-identified claims are not anticipated by the cited reference.

It is respectfully submitted that for the foregoing reasons, claims 4-5, 7, 19 and 21-30 are patentable over the cited reference and thus satisfy the requirements of 35 U.S.C. §102(e). As such, these claims are allowable.

#### CLAIM 8

In the above-referenced Office Action, claim 8 was objected to as being dependent upon a rejected base claim. It also was provided in the above-referenced Office Action, however, that this claim would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claim(s).

Claim 8 was not re-written in independent form as suggested by the Examiner. Rather the limitations of claim 8 were added to the base claim, claim 7, and claim 8 was canceled in the foregoing amendment.

Applicant: T. Yanagi, et al.  
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CLAIMS 31-33

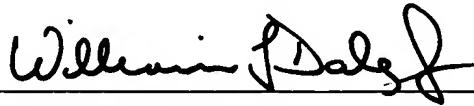
As indicated above, claims 31-33 were added to more distinctly claim embodiments/aspects of the present invention. These claims are clearly supported by the originally filed disclosure, including the originally filed claims. It also is respectfully submitted that these added claims are patentable over the cited prior art on which the above-described rejection(s) are based.

It is respectfully submitted that the subject application is in a condition for allowance. Early and favorable action is requested.

Applicants believe that additional fees are not required for consideration of the within Response. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, the Commissioner is hereby authorized and requested to charge Deposit Account No. 04-1105.

Respectfully submitted,  
Edwards & Angell, LLP

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By:   
William J. Daley, Jr.  
(Reg. No. 35,487)  
P.O. Box 55874  
Boston, MA 02205  
(617) 439- 4444

Customer No. 21,874